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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,027	10/10/2003	Tomomichi Kanda	396.43206X00	8004

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EXAMINER

TRAN, THAO T

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,027

Applicant(s)

KANDA ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/2/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Matlack et al. (US Pat. 5,028,462).

Matlack discloses a gas barrier multilayer structure for making bottles, the multilayer structure comprising an inner and an outer layer of a thermoplastic resin and at least one intermediate layer of a polyamide composition having excellent gas barrier properties (see col. 1, ln. 6-15). The polyamide composition comprises a copolyamide of isophthalic acid, adipic acid (alpha, omega-linear aliphatic dicarboxylic acid of C₆), and m-xylylenediamine in a molar ratio of 50-35/0-15/50 (see col. 5, ln. 22-27; col. 7, ln. 1-20). The multilayer structure further comprises adhesive layers interleaved between the intermediate layer and the inner or outer layers (see col. 3, ln. 46-47).

The polyamide composition has a glass transition temperature of 90°C and an oxygen transmission rate of about 2.0 cc-mil/100 in²-day-atm (0.129 cc-mil/m²-day-atm) (see col. 28-31). The thickness of the polyamide intermediate layer is about 5-20% of the total thickness of the multilayer (see col. 10, ln. 52-60).

Although the reference does not specify the minimum half crystallization time or the melting point of the polyamide composition, since the reference discloses the same chemical composition, the polyamide composition of the reference would inherently have the same physical properties, such as crystallization and melting point.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matlack as applied to claim 1 above, and further in view of Harada et al. (US Pat. 4,908,272).

Matlack is as set forth in claim 1 above and incorporated herein.

In regards to claims 5-6, Matlack teaches the inner and outer layers comprising thermoplastic resins, such as PET or polycarbonate (see col. 4, ln. 23-26). However, the reference does not teach the thermoplastic resin to be a polyolefin.

Harada teaches a gas barrier multilayer structure, comprising at least one layer of a copolyamide and at least one layer of a thermoplastic resin other than the copolyamide (see abstract). The thermoplastic resin may be polyolefin, polyester, or polycarbonate (see col. 4, ln. 5-13).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed polyolefin in replace of polyester or polycarbonate, as

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taught by Harada, in the multilayer of Matlack, and would have given the same effects. This is because Harada teaches that polyolefin, polyester, and polycarbonate can be used as alternatives of each other.

In regards to claim 8, Harada discloses an adhesive layer between the thermoplastic resin layer and the copolyamide layer that would provide enhanced adhesion strength between layers to be bonded (see col. 5, ln. 11-15, 33-35).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed the adhesive layer between the copolyamide layer and the thermoplastic resin layer, as taught by Harada, in the multilayer structure of Matlack, for the purpose of improving secured bonding between the layers and thus protecting the integrity of the multilayer structure.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 3, 2005



**THAO T. TRAN
PATENT EXAMINER**